

Issues Regarding TDEC Compliance:

1. Is Rutherford County Landfill in compliance with mandated regulations?

Both the closed Class I (sanitary) landfill and the active Class III/IV landfill have had short term conditions of non-compliance or violations from time-to-time. Some examples of these violations include erosion in the cap, vegetative cover needing improvement, leachate break-outs, etc. These violations are generally corrected after each inspection, which is a snapshot of conditions at the time of the inspection. Some other violations take more time to correct. These are mainly related to maintenance of the groundwater monitoring system and responses to contaminants detected in the groundwater monitoring system at levels slightly above the maximum contaminant levels (MCL or drinking water standards) listed in State regulations. Specifically one groundwater monitoring well is known to be in disrepair and needs to be replaced. The condition of other wells needs to be evaluated to determine if any of them also need to be replaced. Additionally, for contaminant detections above the MCLs, landfill assessment and mitigation may be required as prescribed in the regulations.

2. Explain the inspection process and what is expected of the county. Do all landfills undergo this exact same process or are we going through the process due to failed inspections?

By Division policy the closed Class I landfill is inspected a minimum of two times per-year. The inspection frequency for the active Class III/IV landfill is a minimum of once-per-quarter. This is also the specified frequency of such inspections at other Class III/IV facilities across the state. Additional site visits have been performed to monitor actions taken to correct leachate break-outs. Sometimes these inspections have been only to look at leachate containment visibly and not for the purpose of conducting a full inspection.

3. Since 2008 has Rutherford County made any progress on failed inspection issues? Please explain.

The landfill has been inspected as described in the previous section. A review of inspection results indicates that noted violations were generally corrected.

4. It has been reported by citizens that TDEC stated "a lot of leachate is leaking into water." Was this statement made, and if so please define "a lot." Do you have any knowledge of the amount of leachate in the Stones River?

From discussions among Division staff (primarily in the Nashville Field Office), it appears that no one at the Division has made this statement. Constituents detected in monitoring wells suggest that infiltration through the landfill (leachate) is reaching groundwater. In the past (but not within the last year and a half), TDEC personnel observed leachate break-outs reaching the sediment control pond. This pond discharges into the Stones River. The amount of leachate, if any, potentially reaching the Stones River from either source has not been quantified, although

biological and chemical testing performed by the Division of Water Resources do not indicate any negative environmental impacts.

5. Explain any ongoing issues the county is working on.

Ongoing issues that Rutherford County is working on and that the Division of Solid Waste Management regulates are addressed in letters the Division's Nashville Field Office recently issued to the County (attached). The letters call for evaluation of the caps for the closed portions of the Class I and Class III/IV landfills to determine if cap enhancements will decrease infiltration into waste. In the letters, the Nashville Field Office also indicated that the County needed an evaluation of its landfill groundwater monitoring system to determine its effectiveness.

6. What is the possibility of fines being assessed to the county? Please explain why.

TDEC has expectations regarding addressing issues at the landfill, including problems with the current groundwater monitoring system, the correction of final cover drainage issues, and controlling leachate break-outs. It is our strong preference that county funds go to actually fixing the landfills' problems as opposed to paying a state penalty. However, TDEC has the authority and obligation to issue a Director's Order containing civil penalties if issues are not adequately addressed in a timely manner.

Issues Regarding Employees:

7. Do our county landfill employees have access to personal protection equipment such as masks, gloves, and reflective vests? Are employees required to wear PPE while working?
8. Are landfills required to have eye wash and/or decon showers? Do we have either of these at our county landfill?

The Solid Waste Processing and Disposal regulations do not require these items. The only personnel services required are as follows [Rule 0400-11-01-.04(2)(e)]:

(e) Personnel Services - At Class I disposal facilities, and at Class II, Class III/IV and Class IV disposal facilities as may be specified in the permits, there must be provided:

- 1. A building or other shelter which is accessible to facility personnel and which has adequate screening, heating facilities, and lighting;*
- 2. Safe drinking water; and*
- 3. Sanitary hand-washing and toilet facilities.*

TOSHA may have requirements for worker protection that are more stringent than the Solid Waste Regulations.

9. How many landfills employee an engineer that works onsite during operating hours?

The regulations require that an engineer must plan, design, and inspect the landfill construction and assist in the start-up of a new or altered facility as described at 0400-11-01-.04(1)(c):

- (c) *Project Supervision - A registered engineer must plan, design, and inspect the construction of any Class I, II, III, or IV disposal facility; also, a registered engineer must assist in the start-up of and outline correct operating procedures for any new or altered facility. Any registered engineer herein required shall be governed by the terms of T.C.A. Title 62, Chapter 2.*

We do not know of any Class III/IV landfill that has an engineer on site.

10. How many employees at the landfill are certified operators? Are employees required to go through training on landfill operations prior to beginning work? Do they understand what materials are allowed at the site?
11. Is it required for a landfill employee to oversee dumping every time someone dumps at the site? How do we ensure that only permitted items are dumped?

The Solid Waste Processing and Disposal Regulations require that all permitted facilities accept only that waste which is authorized under their permits. To accomplish this, regulations are set forth for control of access and use. Part 4 of Rule 0400-1-.04(2)(b) below requires trained personnel to be present and on duty at all times during operation to prevent entry of unauthorized wastes:

(b) *Control of Access and Use*

1. *The facility must have an artificial or natural barrier which completely surrounds the active portion of the facility and must have a means to control entry, at all times, through the gate or other entrances to the active portion of the facility.*
2. *If open to the public, the facility must have clearly visible and legible signs at the points of public access which indicate the hours of operation, the types of waste materials that either will or will not be accepted, emergency telephone numbers, schedule of charges (if applicable), and any other necessary information.*
3. *If the facility is open to the public, or if it is otherwise necessary for proper operation, roads within the facility, easements, and parking areas shall be designed, constructed, and maintained so as to be accessible in all weather conditions. Traffic control signs shall be provided as necessary to promote an orderly traffic pattern to and from the solid waste discharge area to maintain efficient operating conditions.*
4. *The facility must have trained personnel present and on duty at all times it is in operation to assure compliance with operational requirements and to prevent entry of unauthorized wastes.*
5. *Class I landfill facilities shall have a certified operator or attendant on site during the hours of operation that is trained and certified as provided at Rule 0400-11-01-.12.*

6. *There must be no scavenging at the facility. Any salvaging or recycling operations must be conducted at safe, designated areas (not the working face) and times, and in a sanitary manner.*

The Division performs routine inspections of permitted facilities to determine compliance.

12. Is there anyone onsite that has had safety training such as first aid/CPR?
13. Are employees required to have blood borne pathogen training?
14. Are employees required to have household hazard training?
15. Do employees receive TB testing? Hepatitis shots for all employees (not just new)? Pre and Post exposure test? What are the regulations regarding health testing for landfill employees?
16. Do we have outside contracted employees that work at the landfill? What training do they undergo before beginning work? What is our county policy regarding contracted workers and county owned equipment? Can non county employees run heavy equipment owned by the county?

Issues Regarding OSHA Requirements:

17. When is the last OSHA inspection the county landfill had?
18. Are MSDS available at the county landfill as well as all convenience centers?

Issues Regarding Gypsum:

19. Please describe issues regarding gypsum. What are the potential hazards? Are there any regulations regarding its disposal in a landfill and/or cleanup of the product?

Gypsum, in the form of waste wallboard, can be disposed at Class III/IV landfills. Wallboard is usually mixed in with other construction/demolition waste. No special requirements exist for the disposal of waste wallboard. Large quantities of crushed wallboard disposed along with organic matter can result in the formation of hydrogen sulfide gas. In TDEC's experience, this reaction, which is actually a biological process, has never resulted in anything more serious than occasional nuisance odors at some Class III/IV landfills.

Issues Regarding the Leachate Pump:

20. Describe how the wells work. How are they to be installed? Are there any issues regarding the wells at the Rutherford County Landfill? Are the wells appropriately placed?

A monitoring well that is properly installed as part of an early detection system is designed to produce samples that are representative of groundwater conditions. The first groundwater encountered should be screened with a monitoring well, since this water would be impacted by contamination before deeper groundwater could be. If several depths of water need to be monitored independently, then groups of wells may need to be placed at each downgradient monitoring location. With the County's current system, water in limestone below the site is being monitored. TDEC has requested an evaluation of the groundwater monitoring system to determine if other groundwater conditions exist that need to be monitored.

21. Are there areas of leachate pooling around the landfill? What are the environmental concerns?

Pooling of rainwater as well as leachate break-outs on the closed Class I landfill were communicated to the county's consultant. Pooling water can lead to leachate generation when water infiltrates through the landfill cap. Conditions that facilitate leachate generation should be minimized to help avoid potential groundwater impacts. The consultant suggested that adding vertical stormwater letdown structures to existing horizontal earthen berms might mitigate surface water pooling. There are no known areas of pooling leachate outside of the landfill containment.

22. What is the risk of the hill "blowing out" due to pressure from the inside?

There is no known risk of the landfill "blowing out" from internal pressures (presumably from landfill gas generation). Excess landfill gas pressures will exit the landfill through the easiest route available, usually through gas collection wells, gas vents, or other cap penetrations. Landfill gas generation achieves its peak shortly after landfill closure, so if a "blow out" were to happen, it probably would have happened already. Additionally, TDEC is not aware of any slope instabilities resulting from excess gas generation.

23. Regarding runoff- is there an issue with runoff at the landfill? Is the collection pond operating properly? Is it properly cleaned?

It has been recently brought to TDEC's attention that the site's stormwater pond may not be functioning as designed. At the earliest opportunity, TDEC will examine the pond to determine if adequate capacity currently exists and review site operating records to determine when the pond was last cleaned. If pond maintenance is required, TDEC will direct the site to perform any necessary activities.

24. In previous years, 2010 in particular, has there been money appropriated to fix leachate issues? What is the status of that project?

Issues Regarding Igniters:

25. How many igniters are currently working at the county landfill? How many are out of service? Are there any concerns about these igniters, and could they possibly be permanently damaged due to being inoperable for long periods of time?

During the last meeting that Solid Waste Management Nashville Field Office staff had with Rutherford County, of the more than 40 solar igniters in place at the County Class I landfill, about four were not operational. The igniters are used to burn gas that develops in the landfill from decomposing organic material. Because of the decrease in gas generation the igniters have probably outlived their usefulness and the County has considered decommissioning them.

26. Are there any environmental concerns remaining from the igniters that did not properly work?

There are minimal, if any, environmental concerns regarding igniters that do not work properly. The landfill has been closed for over 20 years so it is not likely generating a substantial quantity of gas. It is probable that the gas quality (amount of methane in the gas) is insufficient for sustained burning of the flares. The majority of landfill gas consists of CO₂ and methane, with a small amount of balance gasses (usually volatile organic compounds). CO₂ and methane are not environmental hazards, and after 20 years, the balance gasses are expected to be so minor as to not be a concern.

Issues Regarding Private Haulers:

27. What is our current policy regarding box storage for private haulers? Do landfills typically allow this type of storage on their property for free?



**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE ENVIRONMENTAL FIELD OFFICE**

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NASHVILLE, TENNESSEE 37243

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April 2, 2013

Certified Mail 7011 0110 0002 0049 9858

Return Receipt Requested

The Honorable Ernest Burgess
Room 1001
Rutherford County Courthouse
Public Square
Murfreesboro, Tennessee 37133

RE: COMPLIANCE REVIEW MEETING
March 27, 2013

Dear Mayor Burgess:

On March 27, 2013, the Nashville Field Office of TDEC's Division of Solid Waste Management conducted a Compliance Review Meeting with you and representatives of Rutherford County. The purpose of the meeting was to discuss conditions of the County's landfills and to evaluate possible improvements. The primary concerns discussed involved leachate generation and the maintenance of groundwater system components.

Previously, Rutherford County installed a sump in the lower section of its Class IV landfill to remove leachate from the fill area. During the meeting the County shared information that the quantity of leachate removed from the sump was sufficient enough to cap the sump. Additionally, the County has retained a consulting firm to continue and hopefully finalize an evaluation of the landfill cap and cover. The purpose of this evaluation is to determine if improvements can be made in the landfill that will minimize to the extent practicable the generation of leachate. At the Division's request the County agreed to provide at least a quarterly update on the evaluation effort. The County also offered to provide a statement of the status of the work that has been conducted thus far. Please submit the current status statement by the end of April and submit the first quarterly update by the end of June. Completing the evaluation of the landfill cap and cover, determining what improvements can be made, making those improvements that are practicable, and providing at least quarterly updates on the progress helps address our immediate concerns over leachate generation.

Additionally, the discussion during the meeting involved the groundwater monitoring system for the landfills. It was noted that the integrity of monitor well MW-4 has been compromised and it needs to be replaced. All other existing monitor wells need to be inventoried with the expectation of determining the viability for groundwater assessment. Depending on the outcome of the well inventory, additional monitor wells may need to be installed to provide an adequate monitoring

network. Any new wells should be screened above the soil/bedrock interphase. This is required to ensure the appropriate groundwater aquifer is being monitored. Any detected groundwater contamination must be addressed according to State regulations; which may include determining the vertical and horizontal extent of contamination.

We would like to thank you for your participation and cooperation in this effort. In addition to the quarterly report mentioned previously, please provide this office with a schedule for the well inventory efforts within thirty days of the receipt of this letter. All the requested documents and reports may be forwarded to my attention.

If you have any questions concerning this correspondence please feel free to contact me by telephone at 615-687-7019.

Sincerely,



Al Majors, Field Office Manager
Nashville Environmental Field Office
Division of Solid Waste Management

cc: Mr. Mac Nolen, Solid Waste Director for Rutherford County
Teresa Boyer, DSWM Enforcement Chief
Lisa Ann Hughey, CHMM, Deputy Director of Field Operations
Meredith Sullivan Benton, Regional Director for External Affairs, Nashville Field Office



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March 5, 2013

Certified Mail
7010 1670 0000 0418 7628
Return Receipt Requested

The Honorable Mayor Ernest Burgess
Room 1001
Rutherford County Courthouse
Public Square
Murfreesboro, Tennessee 37133

RE: Issues Related to SNL 75-0103 and DML 75-0047
Proposed Compliance Review Meeting

Dear Mayor Burgess:

Division of Solid Waste Management staff at the TDEC Nashville Field Office has consulted together regarding concerns we have about the referenced Rutherford County landfills. Particularly we have discussed the accumulation of leachate in the landfills, the current mechanism of leachate extraction and maintenance of the groundwater monitoring system components. We would like to discuss our observations with you and landfill management personnel in hopes that: a plan can be implemented to reduce the amount of leachate that collects; an alternative to the existing leachate collection protocol can be established; and groundwater monitoring system components can be adequately maintained.

To accomplish these goals we would like to conduct an on-site compliance-review-meeting before the end of March. Because we would like to conduct this meeting at your facility, we request that you provide us with a date and time (within the time frame specified) that is convenient for you and any other County employees that you feel should be involved in this discussion. Our intention in this endeavor is to enhance the quality of the environment surrounding the location of the County landfills.

If you have any questions concerning this requested meeting, please feel free to contact me by telephone at (615) 687-7019 or by email at al.majors@tn.gov. We look forward to hearing from and working with you on these issues.

Sincerely,

Al Majors/Environmental Field Office Manager
TDEC/Division of Solid Waste Management/Nashville Environmental Field Office

cc: DSWM Central Office

- Teresa Boyer, Enforcement Section

- Lisa Hughey, Deputy Director of Field Office Operations

Meredith Benton, Regional Director for External Affairs, Nashville Field Office

Alan Spear, DSWM/NFO